

An overspeed device actuating an automatic emergency governor is fitted to shut down the machine should the speed pass a limit, which is predetermined.

The emergency governor closes both throttle and stop valve. An auxiliary automatic oil-pump is fitted which comes into use when the machine shuts down or starts up. This is cut out when the main oil-pump, driven by worm from the main shaft, comes into action.

The low-pressure portion of the casing is of cast iron suitable for moderate pressures and temperatures.

The casing is divided on the horizontal line, and the top half may be lifted without breaking any pipe joints or dismantling the nozzle or governor gear. Supporting feet at each side of the casing are arranged at the low-pressure end, and are cast in with the exhaust chamber. These feet are

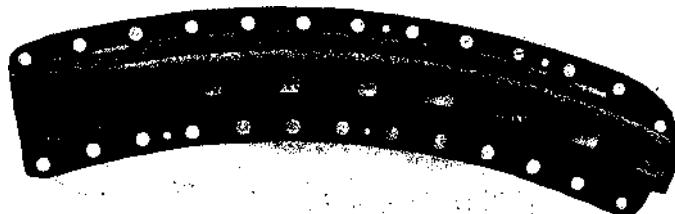


Fig. 24.—H.P. Nozzle Block

free to slide along the bedplate to give the necessary movement when expansion takes place.

The turbine casing is anchored at the exhaust-end pedestal bearing so that expansion takes place towards the high-pressure end of the machine.

The steam-end bearing pedestal which carries the thrust block is connected to the casing. It can slide freely over a steel feather in the bedplate in an axial direction, and thus follows the expansion of the casing. At the same time the thrust block automatically corrects the differential expansion which takes place between the rotor and casing.

The first set of nozzles is carried in castings which are bolted to the cast steel cover at the high-pressure end of the turbine. The steam passages are cast into the nozzle plates, and the nozzle exits are machined.

Fig. 24 shows one of the nozzle plates for the first stage. They do not generally extend round the whole periphery in the first stage,

two or more sections being used as required for the quantity of steam to be passed. The nozzles in the later stages are similarly formed in the diaphragm plates.

The centre lines of the nozzle are not tangential to the mean diameter of exit, but are slightly inclined inwards so that the steam jet shall strike the blades at the correct angle.

The diaphragms are of cast iron or steel, and are dished slightly to withstand the varying pressure during rapid changes of load without buckling.